

Applicant: James Mantyla
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REMARKS

Reconsideration of the application as amended is respectfully requested.

Basis for Proposed Amendments

Paragraphs 2-5 of the Office Action identified certain minor errors in the description and claims. The applicant has now amended the application to make the necessary corrections. Specifically, in the description the applicant has inserted a brief description of Fig. 5, corrected the word "tough" to "though", and changed the description of Fig. 5 to include the correct numerical references. Further in accordance with the Examiner's request, the word "connector" in claim 15 has been replaced by "coupler".

In response to the Examiner's objection with respect to claims 5 and 6, the applicant has amended claim 5 to clarify that the center of curvature is located approximately on an axial centerline of the first or second tubing element. This amendment is supported in the second sentence of paragraph 0037 of the present application and Fig. 1.

The Examiner had also requested that "seal" be replaced by "sealing gasket" in a number of dependent claims, to conform with the term "sealing gasket" used in claim 1. The applicant has instead elected to amend claim 1 by replacing the term "sealing gasket" with "seal". The

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applicant submits that this amendment is well supported in the application, as the first reference to this element, at the end of paragraph 0035, states that "also shown is a seal 28 which is described in more detail below". Further, in paragraph 0040 it is stated that "most preferably the seal 28 is in the form of a generally wedge-shaped gasket ...".

The applicant has also amended claim 1 by introducing the seal element after the tubing elements and before the connector element. Support for the balance of the amendment is found in the drawings and in paragraphs 0037 - 0043, which teach that the seal fits snugly between the first and second coupler portions, and is preferably formed from a compressible material to form a liquid tight seal. Paragraph 0043 describes how the connector seats the seal between the first and second coupler portions.

Accordingly, the applicant submits that no new matter is being added and the amendments are proper and should be entered.

35 U.S.C. 103 (Obviousness) Rejection

This application is directed to a plumbing drainage device comprising two tubes (one of which is U-shaped) that are sized and shaped so they can be joined together at a variety of angles. The tubes are releasably coupled by a connector that includes a seal sized and shaped so

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that the coupled tubes form a leak resistant joint over the range of angles. In the preferred embodiment the tubes form a ball and socket type of joint and the non-U-shaped tube is elbow shaped.

Turning to the pending office action, in paragraph 7 the Examiner rejected claims 1-16 under 35 U.S.C. 103(a) as being obvious with respect to U.S. Pat. 739,154 to **Crawford**, in view of U.S. Pat. 1,076,921 to **Stafford**. The Examiner's position is that Crawford teaches a "generally U-shaped" "first tubing element" C, a "second tubing element" F, each of which have a coupler portion and an attachment bell at opposite ends, and a connector E. The Examiner acknowledges that "the Crawford assembly lacks a sealing gasket", but takes the position that "Stafford teaches that such gaskets (16) are common in ball-and-socket pipe joints to prevent leakage". The applicant notes that the Examiner is referring here to the "adjustable packing ring 16" shown in Stafford, which the Examiner claims is equivalent to the sealing gasket 28 of the present invention. Accordingly, the Examiner's position is that "in view of Stafford, it would have been obvious to provide the Crawford assembly with a 'gasket' between the 'connector' and 'second coupler portion' to prevent leakage". In other words, having recognized the deficiencies in teachings of Crawford, the Examiner has taken the view that they can be overcome by selective combination with a specific element of Stafford.

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The applicant has carefully studied the cited references and respectfully disagrees with the Examiner's position. As a preliminary matter, the applicant notes that Crawford teaches two pipes which couple together in a conventional ball and socket joint arrangement. The elbow pipe F has a bulbous ball F' which fits closely inside a socket on U-shaped tubing C. The ball of the elbow pipe can be rotated to some extent within the socket, to facilitate the installation of the pipes within the plumbing system. There is also a connector in the form of annular nut E, which is tightened to fix the ball and socket in place. Tightening of the nut E results in the spherical portion F' being "held water-tight against the seat C⁴". (lines 73-78). Not only is there no separate seal as admitted by the Examiner, but no gap exists between the ball or spherical portion F' and curved socket C⁴ within which a seal may be located.

The applicant notes that Crawford teaches a conventional ball and socket type arrangement tightened by a nut to form a tight fit between two plumbing parts and thereby prevents leakage. Since Crawford clearly teaches that a separate seal is not needed, the applicant respectfully questions what basis there would be for a person skilled in the art to even consider inserting an additional element of a sealing gasket, considering that there is not even a gap in Crawford in which it is appropriate to place a seal. Accordingly, the applicant submits that there would simply be no motivation to "provide the Crawford assembly with a 'gasket' between the 'connector' and 'second coupler portion' to prevent leakage" as asserted by the Examiner.

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Crawford's teachings are complete, i.e., that a leak proof joint can be made with a ball and socket without a separate seal. In the Office Action, the Examiner asserted that in view of Stafford, it would have been obvious to provide Crawford's device with a gasket "to prevent leakage". However, when considering the teachings of a particular reference, it is the teaching of the reference as a whole which must be considered. It is not proper for the Examiner to "pick and choose" selected portions of the cited art and, with the benefit of the applicant's disclosure, render the invention obvious.

It is respectfully submitted that the Examiner has provided no motivation to combine a seal with the teachings of the Crawford. As pointed out in MPEP §2143.01, a *prima facie* showing of obviousness requires the Examiner to set forth motivation for a proposed hypothetical combination. Further, "[a] statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art" at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." The only motivation provided by the Examiner for the hypothetical combination is the prevention of leakage. However, Crawford provides a leak-tight arrangement with a component-to-component interface. With such an interface, there is no objective reason to combine the

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references as suggested by the Examiner. It appears that in formulating this rejection, the Examiner has simply ignored the overall teachings of Crawford and has merely used the present disclosure as the sole motivation to do so. As such, the Examiner is using impermissible hindsight.

The applicant further submits that it is not technically possible to combine the teachings as suggested by the Examiner to yield the applicant's claimed invention. The applicant refers the Examiner to Fig. 2 of Crawford and Fig. 1 of Stafford. The applicant notes that in Crawford, the ball and socket form a snug fit, with the connector fitting closely over the tubes. By contrast, there is ample space in Stafford for the relatively thick packing ring 16. It is submitted that there is simply no space available in Crawford to receive the packing ring 16 from Stafford, in particular and as claimed by the Examiner, "between the 'connector' and 'second coupler portion'". Accordingly, the applicant respectfully submits that it is technically impossible for Crawford to implement a gasket or packing ring as taught by Stafford, as Crawford has no structure to accommodate such an element, and that no person skilled in the art would think to do so as the Examiner has stated.

Assuming *arguendo* that a *prima facie* showing of obviousness can be made, and it were possible to combine the packing ring of Stafford into the ball and socket joint of Crawford, in the

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applicant's respectful submission, this does not yield the claimed invention. With respect to Stafford, a stated object (line 21) is to "constitute a tight joint without employing any gaskets or packing of other material then metal." Rather, Stafford teaches an adjustable packing ring 16 to spread the load around the joint. Thus, Stafford teaches an element for strength considerations, not sealing considerations. In any event Stafford teaches that only metal elements are to be used, which is directly contrary to providing a seal as claimed by the applicant. Quite simply, the "packing ring 16" does not act as a separate seal as now claimed, and cannot so act since it is metal.

On this basis, the applicant respectfully submits that claim 1 of the subject application should be allowable, since the claimed limitation of a seal sized and shaped to fit between the first and second coupler portions, the seal being sufficiently flexible to form a liquid tight seal, is not present in either cited reference or in any combination of the cited references.

Claim 2 of the subject application is for the device of claim 1, "further including an angle stop for limiting said range of angles". The angle stop is sized, shaped, and positioned "to ensure a downstream element of said first and second elements is angled to promote drainage". In the present invention, the angle stop comprises a stop 60 that engages an upper edge or lip 63 of the U-shaped tube 18, so that an angle α is formed between the vertical V and the end of

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attachment bell 14. In brief, the angle stop ensures that the drainage plumbing has a certain minimum slope or incline, which is explained in the application as often required by building codes.

The applicant submits that Crawford does not teach an angle stop or any part of such an element. The Examiner apparently agrees, but takes the position that Stafford teaches that "an encircling shoulder (3) may be provided on the ball portion of the joint for engaging the end of the socket ... this feature creates an 'angle stop' because it prevents the joint from articulating beyond the point of contact between the shoulder and the socket. It would have been obvious to provide such a feature on the Crawford joint to limit the articulation of the joint".

In response, the applicant notes that Stafford merely shows the encircling shoulder 3 and does not say anything relating to its purpose. Claim 2 claims a specific type of angle stop, namely one that prevents the parts from being coupled together in a manner that creates a low spot to hinder drainage. In contrast, the shoulder 3 of Stafford, while limiting the angle between the two parts does not prevent, in any way the second part from being connected at a rising angle, which would permit the joint to be formed at a low point in the run. Thus, the shoulder of Stafford simply does not meet the claimed limitation of being "sized, shaped and positioned to ensure a downstream element of the first and second elements is angled to promote drainage".

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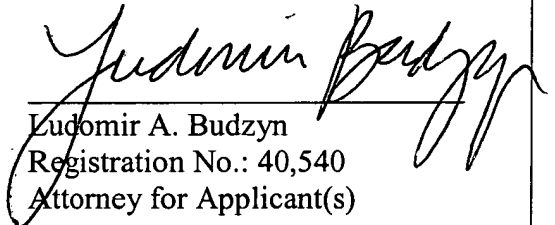
In fact, Fig. 2 shows the pipes joined to each other along a straight line (whereas this claim 2 requires the second element to be angled downwardly). Therefore, the applicant submits that Stafford does not teach an angle stop as claimed in claim 2. Accordingly, the applicant respectfully submits that claim 2 of the subject application is not obvious and is allowable as an additional basis of patentability, regardless of the Examiner's determination in respect of claim 1 (which the applicant also submits is allowable).

In light of the allowability of claims 1 and 2, the applicant respectfully submits that the remaining claims, 3-16, dependent on these claims are similarly allowable and respectfully requests reconsideration of all of the claims pending in the application.

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Favorable action is earnestly solicited. If there are any questions or if additional information is required, the Examiner is respectfully requested to contact applicant's attorney at the number listed below.

Respectfully submitted,


Ludomir A. Budzyn
Registration No.: 40,540
Attorney for Applicant(s)

HOFFMANN & BARON, LLP
6900 Jericho Turnpike
Syosset, New York 11791
(973) 331-1700